

REMARKS

I. Status of the Application and Claims

With entry of this amendment, claims 2-8 and 10 are pending. Applicants acknowledge that the restriction requirement has been made final. Office Action, page 2. Applicants reserve the right to prosecute the subject matter of withdrawn claims 9 and 11-38.

II. Clarification of Data in Specification

Applicants would like to draw the Office's attention to the G-CSF data set forth on page 9 line 10 to page 10 line 11 of the as-filed specification. Data in the as-filed specification are from the experiment report of January 2003. The experiment report was updated in June 2003, which was after the filing of the present national stage application as a PCT international application, to correct an inadvertent data processing error of the G-CSF data. The G-CSF data in the as-filed specification shows significant increase of Lymphocyte (LY), Monocyte (MO), and Granulocyte (GR) in 5-Fu and G-CSF treated mice. The updated report of June 2003, with the correctly processed data, demonstrate significant increase of White Blood Cell (WBC), MO, and GR in 5-Fu and G-CSF treated mice, see paragraph 7 of the Declaration of Guang-Tzuu Shane. The updated report of June 2003 also shows increase of LY with $p=0.057$, just falling short of significance by 0.007 with significance being $p<0.05$, see paragraph 7 of the Declaration of Guang-Tzuu Shane. Any presentation of erroneous data in the specification was without any deceptive intent and due to an inadvertent data

processing error. The Office is asked to rely, to the extent necessary, on the data provided in the present declaration.

III. Specification/Abstract Objections

The Office objects to the specification/abstract for lack of proper language and format. Applicants have made the requested changes in the attached amendments to the abstract.

Applicants have made spelling corrections in the specification as indicated in the attached Amendments to the Specification.

IV. Claim Objections

The Office objects to claims 1-3, 6, and 7 for informalities. The correct spelling of "tonkinesis" is "tonkinensis". Office Action at page 3. Applicants have made the changes accordingly in the attached Amendments to the Claims.

V. Claim Rejections - 35 USC § 112, 2nd

The Office rejects claims 4 - 7 as allegedly being indefinite as the percentage amounts of the ingredients are not set forth in terms of either "by weight" or "by volume" percentage amount of the total weight amount of the composition. Office Action at pages 3-4.

Applicants have amended claims 4-7 which are supported by the originally filed specification as shown below (emphasis added):

[0026] The composition can be formed into powders (composition powders) through the following steps. First, geranium oil and the root of *Sophora tonkinensis* are prepared separately. β -cyclodextrin is added to geranium oil to prevent evaporation, and excipients are added subsequently to form geranium oil powders. The geranium oil and the excipients are about 31% and 62% by weight, respectively, of the geranium oil powders. Next, the root of *Sophora tonkinensis* is cut into thin pieces and then grounded. About 250 grams of the grounded *Sophora tonkinensis* root is mixed with 3000 ml of water, about 12 times the weight of the grounded root. The mixture is then boiled in a steam distillation bottle to heat and reflux for about 1 hour. Afterwards, the scum on the surface of the liquid is removed, and the liquid is filtered through a 100 mesh screen. The filtered liquid is then concentrated and about 66 grams of solid extracts of *Sophora tonkinensis* is obtained. Excipients are added to the solid extractions to form *Sophora tonkinensis* root powders. The *Sophora tonkinensis* extractions and the excipients are about 60% and 40% by weight, respectively, of the *Sophora tonkinensis* powders. Subsequently, the geranium oil powders and the *Sophora tonkinensis* root powders are mixed together with additional excipients to form the composition of the present invention into powder forms, wherein the geranium oil powders, *Sophora tonkinensis* root powders, and the excipients are about 55.94%, 0.958%, and 43.102% by weight, respectively, of the composition powders. The weight ratio of geranium oil and extractions of *Sophora tonkinensis* within the composition are about 30:1. The excipients to be used in the process to form powders can be starch, sugar spheres, fructose, sorbital crystalline etc. and those commonly used by one skilled in the art.

Applicants have amended claim 4 to set forth powders of geranium oil of about 56% of the composition by weight as described in paragraph [0026] of the application, as shown in the underlined portion above.

Applicants have amended claim 6 to recite powders of extractions from the root of *Sophora tonkinensis* of about 1% of the composition by weight as described in paragraph [0026] of the application, as shown in the underlined portion above.

Applicants have amended claim 5 to recite geranium oil and excipients with weight percentages of about 31% and about 62%, respectively, of the geranium oil powders as described in paragraph [0026] of the application, as shown in the underlined portion above.

Applicants have amended claim 7 to set forth extractions from the root of *Sophora tonkinensis* and excipients of about 60% and about 40% by weight, respectively, of the *Sophora tonkinensis* powders as described in paragraph [0026] of the application, as shown in the underlined portion above.

In view of the foregoing amendments, claims 7-9 are clear and definite. Withdrawal of the rejection of these claims under 35 U.S.C. § 112, second paragraph, is respectfully requested.

VI. Claim Rejections - 35 USC §102

The Office rejects claims 1, 3, 8 and 10 under 35 U.S.C. § 102(e) as allegedly being anticipated by Fong et al. (US 2003/0134003 A1) ("Fong et al.").

The Office alleges Fong et al. teach a composition comprising geranium oil and powder of roots of at least one plant selected from a group comprising *Sophora*

tonkinensis (claim 51). Fong et al. further teach geranium oil being extracted from plant of the genus *Pelargonium* and species *roseum*. (claim 21). Office Action at page 4.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See M.P.E.P. § 2131 at 2100-76 (8th ed. rev. 4 October 2005).

Applicants have canceled claim 1 and amended claims 3, 8 and 10 to depend on the amended claim 2. The amended claims 3, 8 and 10 are not anticipated by Fong et al. which do not describe the claimed component amount of the composition. Therefore, Applicants respectfully request withdrawal of rejection of claim 3, 8 and 10 under 35 U.S.C. 102(e).

VII. Claim Rejections - 35 USC § 103(a)

The Office rejects claims 1-8 and 10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fong et al. The Office states that Fong et al. teach a composition comprising geranium oil and at least one plant selected from a group comprising *Sophora tonkinensis*. Office Action at page 5. The Office states that it would have been *prima facie* obvious for one of ordinary skill in the art to take on the form powder for geranium oil, since Fong et al. teach that the composition can take on the form of an oil capsule, tablets, pills, and paste. Office Action at page 6. The Office further states that "regarding the limitation to the amount of the components in the composition, the result-effective adjustment in conventional working parameters is deemed merely a matter of

judicious selection and routine optimization which is well within the purview of the skilled artisan." Office Action at page 6.

Applicants respectfully traverse because the Office has not set forth a *prima facie* case of obviousness. Under 35 U.S.C. § 103, the Office bears the initial burden of establishing a *prima facie* case of obviousness. MPEP § 2142 at 2100-134 (8th ed. rev. 4 October 2005). To make a *prima facie* case, the Office must show there is some suggestion or motivation in the reference or in the general knowledge available to one of ordinary skill in the art to modify or combine the references with a reasonable expectation of success, and the prior art reference or references must teach or suggest all the claim limitations. *Id.* Section 2142 of the MPEP states as follows "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval)". MPEP § 2142 at 2100-127-8 (Rev. 6 September 2007).

Fong et al. do not teach all the claim limitations, i.e. the claimed amount of geranium oil, *Sophora tonkinensis*, and excipient in the composition nor the geranium oil

powder. Office Action at page 6. Fong et al. do not teach nor suggest the respective weight ratio of 30:1 of geranium oil and extractions from the root of *Sophora tonkinensis*. The Office merely makes conclusory statements, i.e. the alleged obviousness in formulating the claimed geranium oil as a powder and the amount of the components in the composition being a matter of routine optimization. Office Action at page 6. It has not provided any analysis or rational to support its conclusion. Therefore, the Office has not made a *prima facie* case of obviousness.

Furthermore, the composition of the present invention has an unexpected result in reducing bone marrow suppression effect not shown by the composition taught by Fong et al. Evidence of unobvious or unexpected advantageous properties, such as superiority in a property, can rebut a *prima facie* case of obviousness. MPEP § 716.02(a) at 700-268-9 (8th ed. rev. 4 October 2005). The composition of the present invention, comprising *Sophora tonkinensis* and geranium oil in a specified proportion, is shown to reduce the bone marrow suppression effect of cancer treatments on day ten of the treatment in mouse studies. Day ten is critical as the blood count is at its lowest in the course of treatment, subjecting the animal to the greatest risk, see paragraph 12 of the Declaration of Guang-Tzuu Shane. (The experiment is described in an earlier experiment report of Jan. 2003, and later in paragraph [0032] of the published application. The Jan. 2003 report was updated on June 2003 to correct an inadvertent data processing error of the G-CSF/5-FU experiment data, see paragraph 7 of the Declaration of Guang-Tzuu Shane.)

Animal experiments were conducted in January 2003 to compare the efficacy of four compositions in reducing the bone-marrow suppression effect of cancer treatments. The four compositions were 1) the composition of the present invention, 2) the composition taught by Fong et al. (designated as "AT-21" in the experiment), comprising *Sophora flavescenes* and geranium oil, 3) a composition comprising *Sophora flavescenes* powder and geranium oil extraction powder, and 4) G-CSF. The experiment data was later updated due to a prior data processing error with respect to G-CSF, see paragraph 7 of the Declaration of Guang-Tzoo Shane. The result shows the composition of the present invention has comparable effect in reducing bone-marrow suppression effect of cancer treatments as that of G-CSF. The composition of the present invention is able to increase the blood count nearly across the board (Red Blood Cell (RBC), White Blood Cell (WBC), Lymphocyte (LY), Monocyte (MO), and Granulocyte (GR)) of 5-Fu treated mice on day ten, see paragraph 8 of the Declaration of Guang-Tzoo Shane. And G-CSF (Nupogen) is able to increase the blood count (WBC, MO and GR) of 5-Fu treated mice on day ten, see paragraph 11 of the Declaration of Guang-Tzoo Shane. The reduction of bone-marrow suppression effect of the composition of the present invention and G-CSF are comparable in that both are able to increase the blood count of WBC, MO, and GR, see paragraph 13 of the Declaration of Guang-Tzoo Shane. In the same experiment, the composition taught by Fong et al. (AT-21) did not increase the blood count of MO and GR in 5-Fu treated mice on day ten, see paragraph 9 of the Declaration of Guang-Tzoo Shane. Thus, the composition of the present invention is unexpectedly superior than the composition taught by Fong et al (AT-21) in reducing the bone marrow suppression effect, in that it is

more effective in increasing the blood count in cancer treatment than AT-21, it has similar effect as subcutaneous injection of G-CSF, and it is administered orally, see paragraph 13 of the Declaration of Guang-Tzuu Shane.

For at least the foregoing reasons, the Office has failed to establish a *prima facie* case of obviousness with respect to the newly amended claims 2-8 and 10 and, thus, the presently pending claims also can not be obvious. Applicants respectfully request withdrawal of this rejection under 35 U.S.C. 103(a).

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims 2-8 and 10. If the Office does not consider the application to be allowable, the undersigned requests that, prior to taking action, the Office contacts her or her supervising attorney David Forman at (202) 408-4068 to set up an interview.

Please charge any required fees to our deposit account 06-0916.

Respectfully submitted,

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